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(71) Applicant
Michael Gordon Stanley
The Square, Swalcliffe, Banbury, Oxfordshire,
OX15 5EL, United Kingdom(72) Inventor
Michael Gordon Stanley(74) Agent and/or Address for Service
Michael Stanley & Co
86 Warwick Road, Banbury, Oxfordshire, OX16 7AJ,
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(54) Plant watering device

(57) A plant feeding or watering device comprising a reservoir (12), to which is sealed, for sliding movement therein, a platform (14) having an upper surface for standing a plant container (17) thereon to exert a load W on a liquid in the reservoir chamber (15). A passageway (16) connects the reservoir chamber (15) with the plant container (17) side of the platform. A valve means (19) controls the flow of liquid through the passageway (16) and operates in response to changes in hydrostatic pressure in the reservoir brought about by changes in weight W of the plant container.

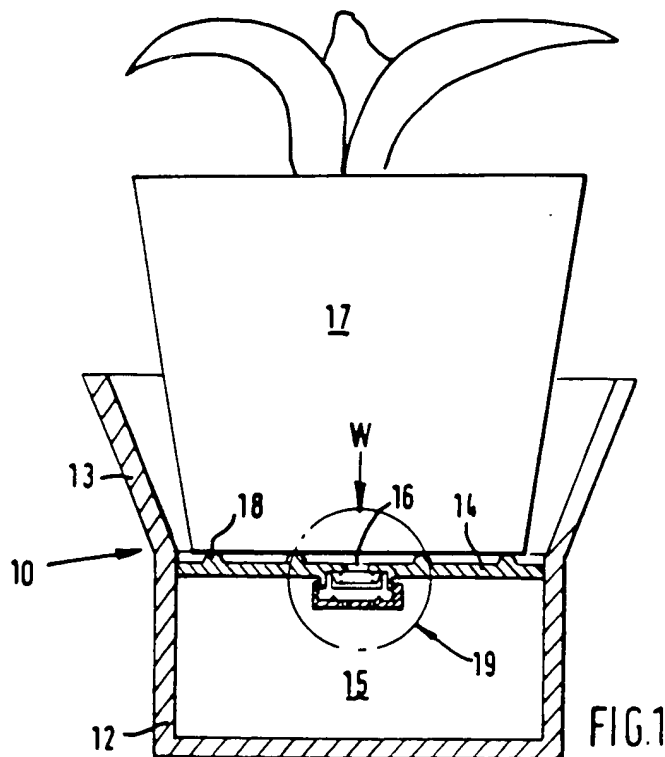
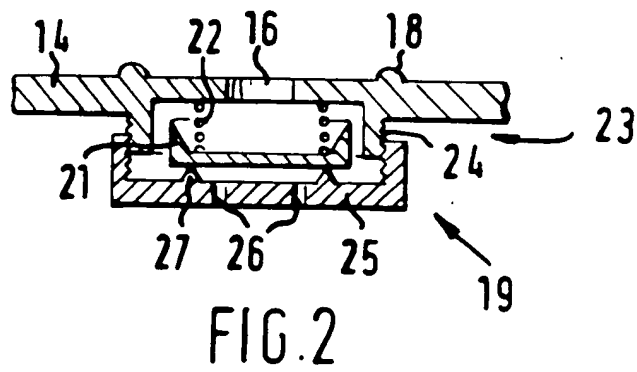
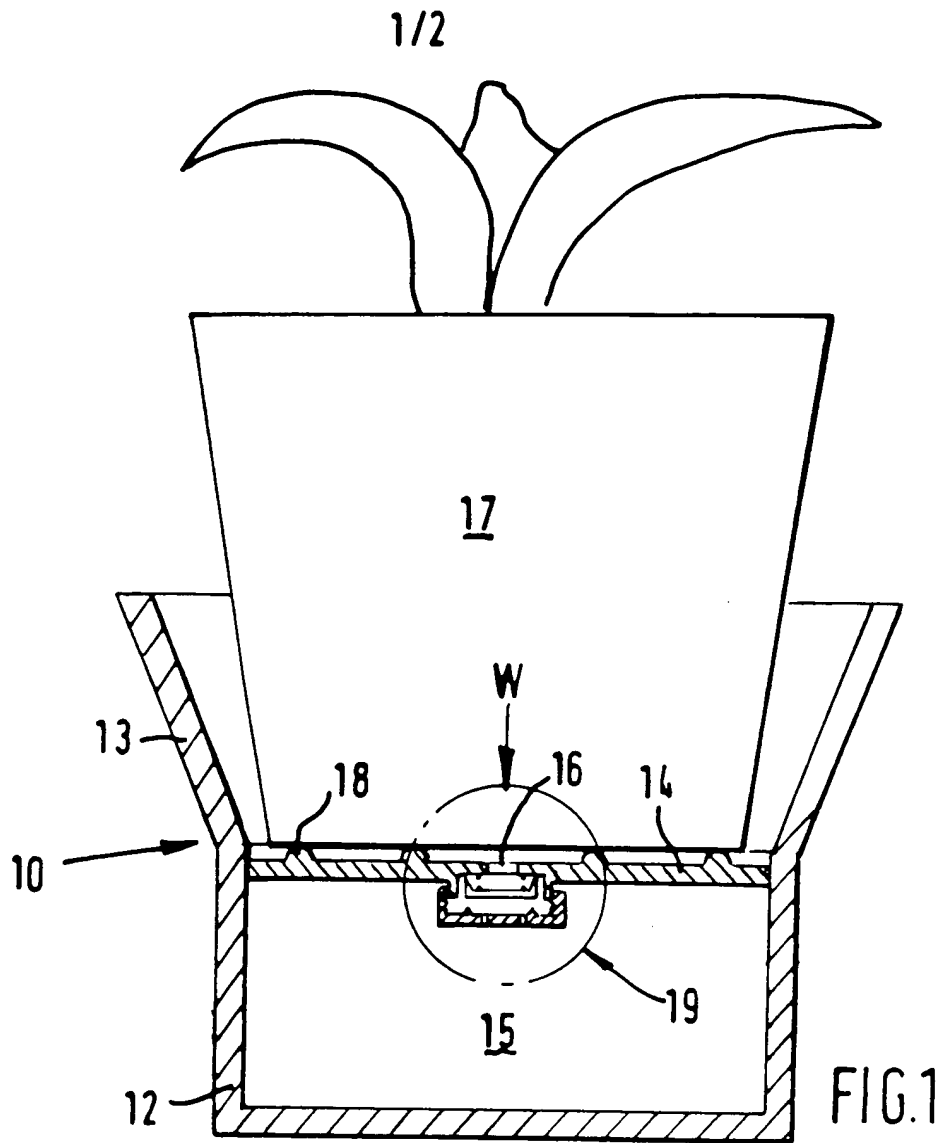


FIG.1



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A PLANT FEEDING OR WATERING DEVICE

This invention relates to a plant feeding or watering device of the type on which a containerised plant can be placed and automatically watered and fed.

Self watering devices for metering a constant supply of water or liquid food to containerised or potted plants are well known. Typical prior art devices utilise wicks to transmit liquid from a resevoir either directly the plant container or to a location from which the container can absorb the liquid. Such a device is shown in British Patent 934175.

Other prior art devices comprise plant containers which sit in resevoirs of liquid, and whereby the liquid passes from the resevoir into the plant container via a porous plug as shown British Patent 1096014 or in British Patent 1127036.

In these prior art wick or porous plug type devices the plant is being continually supplied with water. It is known that certain plants do not like an environment in which the roots are subject to continually damp conditions, but prefer the growing medium to become occasionally drier.

The invention will be described by way of example and with reference to the accompanying drawings in which:

Fig 1 is a section through a self-feeding or watering plant container according to this invention,

Fig 2 is an enlarged section through the valve-means utilised in Fig 1,

Fig 3 is a section through a second type of self-watering container also according to this invention,

Fig 4 is a section through the valve means utilised in Fig 3.

With reference to Fig 1 and Fig 2, there is illustrated a plant watering or feeding device according to a first embodiment of the invention. The device has a holder 10 for a plant container 17.

The holder 10 comprises a cylindrical reservoir 12 and an outwardly flared conical upper portion 13. A circular disc-like platform 14 is sealingly slidable vertically in the reservoir 12 and a passageway 16 is provided in the middle of the platform 14, to connect the upper surface of the platform 14 to the chamber 15 of the reservoir 12. A plant container 17 is shown standing on raised annular concentric bosses 18 on the upper surface of the platform

24 integral with and on the underside of the platform 14, and a cap 25 which screw-threaded on the neck 24. The cap 25 has holes 36 in it to allow water to flow into the valve and has interrupted annular bosses on its interior surface adjacent to plate seal 21 to prevent the plate seal 21 from shutting off the holes 26. The threaded connection between the caps 25 and the neck 24 allows the load in the spring 12 to be adjusted to differing preloads so that valve means can open at different loads for differing varieties of plants which require differing amounts of water.

The platform 14 has finger grips formed therein for removal of the platform when it is necessary to replenish the water supply.

The whole can be injection moulded in a suitable plastic material e.g. polystyrene, acetal resin, polypropylene etc.

Fig 3 and Fig 4 show a second embodiment of the invention in which a spring loaded ball valve means 31 closes the end of a pipe 32 or conduit moulded into the sidewall of a container 33. The hydrostatic head created by the weight W4 of the plant container 37 presses the platform 34 down to push fluid up the conduit 32 and through the ball valve means 31 as before.

CLAIMS:

1. A plant feeding or watering device comprising a reservoir for holding a liquid, a platform for standing a plant container thereon and that is sealingly located in the reservoir to rest upon said liquid, a passageway connecting the liquid side of the platform with the plant side of the platform, and valve means associated with the passageway to meter the liquid therethrough in response to changes in hydrostatic pressure in the liquid brought about by a change of weight in the plant container.

2. A device as claimed in Claim 1 wherein the passageway is located in the platform.

3. A device as claimed in Claim 1 or Claim 2, wherein the valve means is a spring loaded shut-off valve in which the spring biases the valve open and the hydrostatic pressure operates on the valve to close the passageway.

4. A device as claimed in any one of Claims 1 to 3 wherein the valve means is operable by hydrostatic pressure to allow liquid to flow through the passageway when the liquid within the resevoir is at a predetermined pressure and said valve means is adjustable to operate at varying pressures.

10. A device as claimed in Claim 9 wherein the resevoir has a flared portion extending away from the resevoir to provide a housing for a plant container.

11. A device as claimed in any one of Claims 1 to 5 wherein the passageway is integrally formed in a sidewall of the resevoir.